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HETEROTRICHUM DC.

The generic delimitation of Heterotrichum DC. has been a major hindrance in the treatment of the Venezuelan Miconieae. The generotype was recently indicated (Fieldiana Bot. 29: 569. 1963) as H. angustifolium DC. The reasons adduced for this selection are not valid: the foliar features given by de Candolle for both H. niveum (Desr.) DC. and H. angustifolium fit the generic description; the location of the species types is immaterial, de Candolle having done much work in Paris during his melastome research, besides having a type fragment of H. niveum and a Swartz collection of H. patens (Sw.) DC. in his own herbarium. In Bentham & Hookers' Genera Plantarum (1: 765. 1867), H. niveum was definitely indicated as the generotype, this lectotypification seeming indisputable. Swartz (Prodr. Fl. Ind. Occ. 68. 1788) cited Melastoma umbellata Miller as a synonym of M. patens Sw.; thus Swartz's name is illegitimate, the correct name for the species being H. umbellatum (Mill.) Urb. or perhaps Clidemia umbellata (Mill.) L. Wms. Urban indicated that H. niveum was a taxonomic synonym of the variable H. umbellatum.

The above discussion should be regarded as a historic footnote, since Heterotrichum DC. (1828) is a later homonym of Heterotrichum Marschall von Bieberstein (1819-1820); this homonymy was noted in DC. Mon. Melast. 68 (1829), but de Candolle assumed (incorrectly according to the present-day International Code of Botanical Nomenclature) that his taxonomic synonymization of the earlier genus of Compositae under Saussurea DC. permitted the re-use of Heterotrichum in the melastomes. The next generic name published for the complex, Octomeris Naud. (1845), included three new species, O. rostrata, O. tuberculata, and O. macrodon, as well as a "species addenda," O. bonplandii Naud. (Melastoma octona Bonpl.). Later (Ann. Sci. Nat. ser. 3 Bot. 17: 382. 1852), Naudin mentioned O. bonplandii as a "species exclusiva" in his amplification of Octomeris, having already treated that species under Staphidium. Unfortunately Rafinesque (Sylv. Tell. 95. 1838) had described the genus Octonum, based on Melastoma octonum Bonpl.; thus Naudin's genus Octomeris was illegitimate, having included the type of an earlier name. Karsten (Linnaea 28: 439. 1856) described the genus Diplodonta; the type, D. setosa Karst., is a taxonomic synonym of Clidemia octona (Bonpl.) L. Wms.

As a result of the nomenclatural inadvertences above cited, most of the melastome species treated by Cogniaux under Heterotrichum DC. are left without a generic name unless Heterotrichum DC. (non Marschall von Bieberstein) should be conserved. Since

I presently have no illusions as to producing any final generic alignment in the tribe Miconieae, the Venezuelan species of Heterotrichum DC. are being treated in Miconia. Only those transfers needed for the South American species are being published. I really have no opinion as to the best generic placement of the West Indian species of Heterotrichum DC.

The use of the name Octomeris as a section of Miconia is being continued, the citation being Miconia Sect. Octomeris Triana in Benth. & Hook. Gen. Plant. 1: 764. 1867. The only original species of Octomeris Naud. treated in Miconia Sect. Octomeris by Triana (Trans. Linn. Soc. Bot. 28: 102-103. 1871) is M. tuberculata (Naud.) Triana. Probably this need not be regarded as limiting in the ultimate selection of a sectional lectotype species.

MICONIA MACRODON (Naud.) Wurdack, comb. nov.

Octomeris macrodon Naud., Ann. Sci. Nat. ser. 3 Bot. 4: 53, pl. 2, fig. 3 c. 1845.

Heterotrichum macrodon (Naud.) Planch. ex Hook. f., Bot. Mag. pl. 4421. 1849.

The lower elevation collections (up to about 500 m) have eglandular hairs, while the higher-elevation ones show more-or-less gland-tipped hairs on the young stems, petioles, and hypanthia; however, the correlation is not absolute with elevation. As noted by Naudin, there also is considerable variation in the dimensions of the vegetative pubescence, such collections as Funck 486 (P), Steevermark & Wessels Boer 100415 (US), Saer 402 (NY), and Curran 85M (NY) and 326M (NY, US) having longer (7-13 mm) patent stem hairs; pubescence intermediates between this and the form with shorter finer hairs have been collected. From my notes at Paris, the syntypes are Funck 382 and Linden 265; Naudin credited the former to "Caracas" but the label on another collection (W) reads "Cumana"; Linden's collection was from "circa urbes Truxillo et Lima," and was perhaps made in northern Trujillo or southern Lara, the furthest southwest localities in specimens seen by me being "Piedade-Sarare" and "Barquisimeto" in Lara.

MICONIA FUNCKII Wurdack, nom. nov.

Octomeris schlimii Naud., Ann. Sci. Nat. ser. 3 Bot. 17: 379. 1852.

Heterotrichum schlimii (Naud.) Triana, Trans. Linn. Soc. Bot. 28: 134. 1871. Non Miconia schlimii Triana, Trans. Linn. Soc. Bot. 28: 102. 1871.

MICONIA BRETELERI Wurdack, sp. nov.

M. funckii Wurdack affinis, ramulorum pubescentia brevior plus appressa, folia paulo plinervata floribus minoribus calycis dentibus exterioribus longe eminentibus differt.

Ramuli teretes sicut petioli foliorum venae primariae sub-tus pedicellique modice appresso-setulosi pilis laevibus plerumque 0.5-1(-1.5) mm longis. Petioli 1-3 cm longi; lamina

4-10(-13) X 2.5-5(-6) cm, ovata apice gradatim breviterque acuminato basi obtusa, membranacea et obscure ciliato-serrulata, ubique sparsiuscule appresso-setosa pilis gracilibus laxis plerumque 1-1.5 mm longis, breviter (0.3-0.7 cm) 7-plinervata nervulis subtus planis obscuris laxiuscule irregulariterque reticulatis (areolis ca. 0.4 mm latis). Inflorescentia terminalis plerumque triflora, pedunculo ca. 0.3 cm longo; flores 8(-9)-meri, pedicellis ca. 4-6 mm longis, bracteolis ca. 2 X 1.5 mm ovatis persistentibus ca. 2 mm infra hypanthii basim insertis. Hypanthium (ad torum) 5.5 mm longum modice appresso-setosum, pilis gracilibus laevibus 2-3 mm longis; calycis tubus ca. 2.5 mm longus, lobis ad anthesim ca. 0.5 mm longis ovatis, dentibus exterioribus linearibus gracili-setosis 4-4.5 mm eminentibus; torus glaber. Petala glabra 11-11.5 X 8-8.5 mm oblongo-obovata apice rotundato. Stamina isomorphica glabra; filamenta ca. 6 mm longa; thecae 5.5 X 0.8 mm lanceatae infra filamentum insertionem ca. 0.5 mm prolongatae, connectivo nec prolongato nec appendiculato. Stigma capitatum, ca. 1.5 mm diam.; stylus 9 X 1 mm modice glanduloso-puberulus (pilis ca. 0.15 mm longis) in ovarii collo ca. 0.8 mm immersus; ovarium 8(-9)-loculare $\frac{2}{3}$ inferum glabrum.

Type Collection: F. J. Breteler 4910 (holotype US 2583289A), collected on a slope with secondary regrowth between La Fría and Seboruco, Edo. Táchira, Venezuela, elev. ca. 1000 m, 22 Dec. 1965. "Shrublet ca. 80 cm tall, in shade. Leaves herbaceous, thinly papery, pale green, slightly glossy. Calyx bright red. Corolla, stamens, and style white. Flowers with unpleasant smell."

Paratypes (both Edo. Merida, Venezuela): L. Ruiz Terán 3127, from El Amparo along the road to Páramo de Mariño, Distrito Tovar, elev. ca. 1460 m, 13 May 1966. "Sufrútice radicante. Hipanto primero rojo purpúreo claro, luego verde, con pelos pojo purpúreo claro. Pétalos blancos; en la yema, el borde que cubre de color rojo carmín intenso. Estambres blancos"; J. Linden 1400 (W), from "Murmuguena (Bailadores), 3000 ped., juin 1843."

Miconia funckii has patent or subdeflexed stem hairs ca. 2 mm long, the inner pair of primary veins on the larger leaves diverging 1-2.5 cm above the blade base, the petals 16.5-19 mm long, the anthers 7.5 mm long, the external calyx teeth barely (to 0.8 mm) emergent, and the torus sparsely glandular-setulose. Cogniaux' description of long calyx teeth for M. funckii (as Heterotrichum schlimii) must have been based on his and Triana's mistaken identification of Linden 1400, the type collection (Schlim 313) showing short teeth (as noted by Naudin in the original description). Several recent collections from Miranda and the Distrito Federal in Venezuela agree well with Schlim 313.

MICONIA TUBERCULATA (Naud.) Triana

Miconia rostrata (Naud.) Cogn., DC. Mon. Phan. 7: 752. 1891.

Octomeris rostrata Naud. var. villosa Naud., Ann. Sci. Nat. ser. 3 Bot. 4: 53. 1845.

The species shows minor fluctuation in length and appression of cauline pubescence and considerable variability in flower size, but the numerous collections give a continuous spectrum in these features. Actually, the holotype of Octomeris rostrata Naud. (P) has cauline pubescence strictly appressed and leaves like those in Funck & Schlim 740. The synonymy choice was first done by Triana (Trans. Linn. Soc. Bot. 28: 102. 1871). Octomeris rostrata var. villosa was overlooked by Cogniaux; the holotype (Bonpland 373, from "Cumana") has dense spreading cauline pubescence ca. 1.5 mm long and patent hypanthial hairs ca. 1 mm long, as well as the largest leaves 9-nerved. Naudin's variety fits within the species variability, the type being well matched by Linden 1159 from "Bogotá."

MICONIA ARAGUENSIS Wurdack, nom. nov.

Heterotrichum glandulosum Cogn., DC. Mon. Phan. 7: 955. 1891. Non Miconia ? glandulosa (Sw.) Naud., Ann. Sci. Nat. ser. 3 Bot. 16: 244. 1851. Non Miconia glandulosa (O. Ktze.) R. Knuth, Fedde Rep. Beih. 43: 531. 1928.

MICONIA ARAGUENSIS Wurdack var. ANGUSTIFOLIA (Cogn.) Wurdack, comb. nov.

Heterotrichum glandulosum Cogn., var. angustifolium Cogn., DC. Mon. Phan. 7: 955. 1891.

Moritz 776 (BM) and modern collections from Miranda and the Distrito Federal in Venezuela have shorter petioles and generally narrower leaf blades than in the typical variety; also the flowers are smaller (petals 8.5-9 mm long, rather than 13-15 mm; anthers 4 mm long rather than 5 mm). From the description and a single leaf of the type (BR), H. glandulosum var. parvifolium Cogn. does not seem to differ from var. angustifolium. A variant of M. araguensis with shorter pubescence has twice been collected in Depto. Santander, Colombia (Killip & Smith 15082, Uribe 6167).

MICONIA LEIOTRICHIA Wurdack, nom. nov.

Heterotrichum lucidum Triana, Trans. Linn. Soc. Bot. 28: 134. 1871. Non Miconia lucida Naud., Ann. Sci. Nat. ser. 3 Bot. 16: 196. 1851.

MICONIA LAEVIPILIS Wurdack, nom. nov.

Heterotrichum racemosum Wurdack, Phytologia 8: 171. 1962. Non Miconia racemosa (Aubl.) DC., Prodr. 3: 179. 1828.

MICONIA SANTAREMENSIS Wurdack, sp. nov.

In systemate Cogniauxii M. benthamianae Triana affinis pubescentia stellata destituta foliis 3(-5)-nervatis supra sparse strigulosis petalis proportionaliter angustioribus toro ovarioque modice glanduloso-puberulo ovario 4-loculari differt.

Ramuli teretes sicut foliorum venae primariae supra et subtus petiolique modice strigulosi pilis laevibus 0.5-1.5(-2) mm longis. Petioli 0.8-1.5 cm longi; lamina (6-)8-12.5 X

(2-)3-6.5 cm oblongo-ovata apice gradatim angustaque acuto basi obtusa, membranacea et integra vel obscure undulata, supra sparse strigulosa pilis gracilibus laevibus 0.4-1 mm longis persistentibus (pilis caduce glanduliferis brevibus sparse intermixta), subtus sparsiuscule vel modice appresso-setulosa pilis gracilibus eglandulosis plerumque 0.4-1.2 mm longis, 3(-5)-nervata nervis secundariis 0.3-0.4 cm inter se distantibus nervulis subtus laxiuscule reticulatis. Panícula 4-6 cm longa et submultiflora, ramulis pedicellis modice appresso-setulosis; flores (6-)7-meri, bracteolis 1-1.5 mm longis lanceatis strigulosis, pedicellis 0.5-1 mm longis. Hypanthium (ad torum) 2.3 mm longum dense appresso-setulosum pilis plerumque 0.4-0.8 mm longis laevibus pilis glanduliferis patentibus 0.4-0.6 mm longis modice intermixtis; calyx 0.7-0.8 mm longus truncatus, dentibus exterioribus obscuris non eminentibus; torus modice glanduloso-setulosus pilis 0.1-0.3 mm longis. Petala 8-9 X 2.7-3.2 mm obovato-oblonga (apice rotundato) glabra vel interdum setula unica glandulifera 0.2 mm longa terminata. Stamina (18-)21 paulo dimorphica glabra, antheris basim versus 4-locularibus poro unico 0.15 mm diam. paulo dorsaliter inclinato. Stamina (6-)7 maiora: filamenta 5.6-5.8 mm longa; thecae 4 X 0.9 X 0.9 mm, connectivo ad basim incrassato. Stamina (12-)14 minora: filamenta 4.7-5 mm longa; thecae 3 X 0.5 X 0.4 mm, connectivo ad basim non incrassato. Stigma paulo expansum 0.8 mm diam.; stylus glaber 8 X 0.5 mm; ovarium 4-loculare, apice conico 1 mm alto modice setuloso (pilis p.p. glanduliferis) styli collo 0.7 mm alto; semina 1.1 X 0.8 mm essentialiter laevia.

Type Collection: A. Ginzberger s.n. (holotype W), collected at "Taperinha bei Santarem, Rand der Sekundarwaldes der Terra firme," Pará, Brazil, 16 June (fr.)-22 July (fl.), 1927. "Blüten weiss."

Miconia benthamiana has cordate-based 7-9-nerved leaf blades sparsely glandular-puberulous above when young, an underlayer of stellulate hairs on the stems, inflorescences, and hypanthia, torus glabrous or very sparsely glandular-setulose, ovary apex glabrous, and ovary (6-)8-celled and almost completely inferior (the stylar collar ca. 0.3 mm high). Other more distant relatives perhaps are M. atrata (Spring) Wawra (leaf blades 7-nerved and moderately fine-setulose above; flowers 5-merous and diplostemonous; petals 3-4 mm long) and (ex char.) M. multinervis Cogn. (leaf blades 9-11-nerved; flowers 4-merous; petals 4 mm long). Gleason (Bull. Torrey Club 52: 377-378. 1925) noted that the stamen number in M. benthamiana ranged from 24 to 40; the flower size is quite variable, the petals ranging from 4-10 mm long. The anthers in both M. benthamiana and M. santaremensis are 4-celled for most of the length. After examination of an isotype (US) of Clidemia tonduzii Gleason (Brittonia 3: 116. 1939) and three recent Costa Rican collections (León 1137, Schnell 232, Jiménez 737), I can see no reason to differentiate this from Miconia benthamiana.

MICONIA PORPHYROTRICHA (Markgraf) Wurdack, comb. nov.

Heterotrichum porphyrotrichum Markgraf, Notizbl. Bot. Gart. Berl. 12: 181. 1934.

Miconia skutchii Gleason, Bull. Torrey Club 68: 250. 1941.

Miconia porphyrotricha is another relative of M. benthamiana Triana and M. santaremensis Wurdack, differing in the denser and longer (ca. 0.3 mm) underlayer of stellate hairs on the stems, petioles, veins on the lower leaf surfaces, inflorescences, and hypanthia as well as the diplostemonous flowers. In M. porphyrotricha, a variable percentage (always small) of the simple hairs is gland-tipped, but always much less than in M. benthamiana. Apparently as in some other melastomes, two color forms of M. porphyrotricha exist in Ecuador, the long simple vegetative and inflorescence hairs being purple-tinged in the typical form and yellow in some collections (Skutch 4519, Asplund 19665, both from Puyo, Napo-Pastaza); the purplish-setose form has also been collected at Puyo (Asplund 19305). The flowers are secund on the ultimate inflorescence branchlets, this feature obscure until fruiting; the ovary apex is glabrous or obscurely glandular-setulose (ca. 6 setulae 0.2 mm long) and the torus is glabrous; the anthers are 4-celled and the connective with a dorso-basal rounded appendage around the filament insertion. For additional comments, see Mem. N. Y. Bot. Gard. 16: 37. 1967.

MICONIA STRIGOSA (Triana) Wurdack, comb. nov.

Heterotrichum strigosum Triana, Trans. Linn. Soc. Bot. 28: 134. 1871.

The pubescence and floral detail combination in M. strigosa does not resemble that in other Venezuelan species hitherto placed in Heterotrichum DC. Probably M. strigosa is best placed as a distant relative of spp. 204-211 of Cogniaux' monograph, differing from all of these in the 6-merous flowers and long external calyx teeth as well as the glandular ovarian pubescence. The only Venezuelan collection of M. strigosa (Maguire, Wurdack, & Bunting 36704), probably with a fasciated inflorescence, resembles typical collections in the floral details (including a 4-celled ovary), but differs from Brazilian material (Spruce 2047, San Gabriel de Cachoeira; Rodrigues & Chagas 5474, Manaos, "estrada do igarape Tabatinga") in the erect branchlet and lower leaf surface pubescence. Two other Brazilian collections (Holt & Blake 447, Rio Cauabury; Schultes & Lopez 9921, Rio Dimiti) have smaller flowers than M. strigosa, as well as 3-celled fruit, but six calyx teeth and the same pubescence (qualitatively).

MICONIA MOCQUERYSII Wurdack, sp. nov.

Sect. Miconia. M. cionotrichae Uribe et M. stipitatae Gleason affinis, foliorum supra pubescentia plerumque simplice foliis sessilibus differt.

Frutex 0.5-4 m; ramuli teretes sicut foliorum subtus venae primariae inflorescentiarum ramique pilis stipitato-stellatis (stipite plerumque ca. 1 mm longo, radiis ca. 4-5 et 0.3-0.5 mm

longis) densiuscule setulosi. Folia essentialiter sessilia, petiolis crassis ca. 0.2 cm longis; lamina 6-12(-17) X 3.5-7 (-8) cm ovata vel oblongo-ovata apice breviter (0.5-1 cm) subabrupteque acuminato basi ca. 0.5 cm cordata, distanter (ca. 2-3 mm) undulato-serrulata et gracili-ciliata, membranacea, supra sparse appresso-setosa pilis laevibus ca. 2 mm longis plerumque simplicibus (in venis primariis pilis stipitato-stellatis sparse intermixtis), subtus in venulis superficieque sparse setulosi pilis stipitato-stellatis (stipite ca. 0.7 mm longo, radiis ca. 0.3-0.5 mm longis), 5-nervata nervis secundariis plerumque 0.5-0.7 cm inter se distantibus nervulis supra invisibilibus subtus planis et modice reticulatis (areolis ca. 0.3 mm latis). Panicula 5-8 cm longa et pauciflora; flores 5-meri sessiles in ramorum brevium extremitatibus pauciglomerati, bracteolis 3-3.5 X 0.3 mm subpersistentibus. Hypanthium (ad torum) 3 mm longum extus paulo 10-costatum modice setosum pilis gracilibus 2.5-3 mm longis (vel pro parte minore ad apicem furcatis) pilis stipitato-stellatis brevioribus sparse intermixtis; calyx ca. 0.9-1 mm longus truncatus vel paullulo (0.1 mm) 5-undulatus extus sparse setosus et stellato-puberulus, dentibus exterioribus linearibus setosis ca. 0.7-0.8 mm eminentibus. Petala 4.2 X 2 mm obovata extus apicem versus sparse appresseque stellulato-puberula. Stamina in dimensionibus anisomorphica glabra; filamenta 5.5-6.5 mm vel 4.4-4.8 mm longa; antherarum thecae 4.1-4.4 X 0.6 mm vel 3.2 X 0.5 mm subulatae poro minuto ventraliter inclinato; connectivum non prolongatum dorsaliter exappendiculatum ventraliter bilobulatum lobulis ca. 0.3 mm longis glandula unica 0.1-0.15 mm longa terminatis. Stigma truncatum 0.35 mm diam.; stylus 11 X 0.3 mm; ovarium 3-loculare et 1/2 inferum, apice truncato-conico 0.9 mm alto minute sparsissimeque glanduloso. Hypanthium fructiferum 10-costatum.

Type Collection: A. Mocquerys 986 (holotype P; isotypes P), collected at El Vigia, Edo. Merida, Venezuela, 1893-94. "Grand arbuste 4 mètres env. Fleurs roses."

Paratypes (all Colombia): Santander: Bajo Magdalena, río Carare, Puerto Parra, elev. 150 m, L. Uribe Uribe 3958; between Puerto Wilches and Puerto Santos, elev. 110-115 m, E. P. Killip & A. C. Smith 14855. Antioquia: Bajo Magdalena, Casabe, elev. 150 m, L. Uribe Uribe 5890; Río Cauca at Puerto Valdivia, elev. 240-260 m, R. D. Metcalf & J. Cuatrecasas 30088.

Both suggested relatives have petiolate leaves with the upper surface pubescence of short-stipitate stellate hairs. In general aspect except for the sessile cordate leaves, M. mocquerysii much resembles M. barbinervis (Benth.) Triana; that wide-spread species (also collected by Mocquerys [1012] at El Vigia) has petals glabrous on both surfaces, eglandular bases of the stamen connectives, and expanded stigmas. Albert Mocquerys (1860-1926) collected many Venezuelan plant specimens which are largely unstudied at Paris; he was a member of the distinguished family of European entomologists (W. Horn & E. Kahle. Über entomologische Sammlungen, Entomologen, & Entomo-Museologie.

Entomologische Beihefte Berlin-Dahlem 3: 179. 1936).

MICONIA PUNCTATA (Desr.) DC.

Urban (Fedde Rep. 17: 405. 1921) has discussed the distribution of M. punctata as amplified from Cogniaux; his general interpretation is being followed for Venezuela, although the only available flowering material from Hispaniola (Ekman 11438) shows essentially exappendiculate stamen connectives. Doubtless some subspecific segregation is needed, but Cogniaux' varietal units (one of which is var. brevifolia, the type Fendler 1841 from Colonia Tovar, Aragua) based on leaf shape do not seem satisfactory. The Poeppig Peruvian collections cited by Cogniaux as M. lepidota DC. var. grandifolia Cogn. are conspecific with material of M. punctata from Venezuelan Guayana and the Amazon basin; however Schomburgk 623 (F, W) also cited as a syntype of M. lepidota var. grandifolia is not the same as Poeppig 2458, but agrees with Guiana specimens of M. lepidota. The Martius type (M) of M. lepidota is well matched by Spruce 524 and 812 (Santarem, Para, Brazil) and 2122 (S. Gabriel, Amazonas, Brazil); the young branchlets are alternately compressed (but not sharply quadrate), the foliar pubescence paler and the inflorescence branchlets more slender than in M. punctata.

MICONIA TRUJILLENSIS Wurdack, sp. nov.

Sect. Amblyarrhena. M. arbutifoliae Naud. et M. albertii Gleason affinis, foliis proportionaliter latioribus basaliter nervosis differt.

Ramuli obscure rotundato-quadrangulati demum teretes sicut petioli foliorum venae primariae subtus inflorescentiaque sparsiuscule vel modice pilis paulo clavatis minute barbellatis 0.15-0.4 (-0.8) mm longis brunneis demum caducis setulosi. Petioli 0.4-0.7 cm longi; lamina 2.7-4.5 X 1.7-2.6 cm elliptica apice abrupte breviterque (0.3-0.4 cm) acuminato basi rotundata, coriacea et distanter appresso-ciliolata, ubique in superficie glaber, subtus in venis secundariis venulisque sparse caduceque pilis pinoideis 0.1 mm longis et glandulis 0.05 mm longis obsita, 5-nervata nervis secundariis 1-1.5 mm inter se distantibus supra obscuris venulis supra invisibilibus subtus planis et laxiuscule reticulatis (areolis 0.7-1 mm latis). Panicula 6-9 X 6-10 cm multiflora; flores 4-meri subsessiles (pedicellis obscuris crassis ca. 0.5 mm longis), bracteolis non visis. Hypanthium (ad torum) 3 mm longum extus basim versus primum pilis clavatis barbellatis 0.1-0.15 mm longis demum caducis sparse indutum; calycis tubus 0.7 mm altus, lobis interioribus 1.1 X 2 mm ovatis, dentibus exterioribus crassis lobos interiores aequantibus. Petala pruinosa 4 X 3.2-3.3 mm obovato-elliptica apice rotundato. Stamina isomorphica glabra; filamenta (paulo immatura) 3 mm longa; thecae 2.7 X 0.6 X 0.7 mm oblongae poro paulo dorsaliter inclinato 0.3 mm diam.; connectivum ca. 0.5 mm prolongatum exappendiculatum. Stigma non expansum; stylus glaber 5.7 X 0.4-0.5 mm in ovarii apicem 0.3 mm immersus; ovarium 4-loculare et 1/2 inferum, apice conico

8-sulcato glabro.

Type Collection: J. A. Steyermark 104813 (holotype US 2591539A; isotype VEN), collected in "subpáramo y bosque debajo del Paramo de Guaramacal, entre Boconó y Guaramacal," Edo. Trujillo, Venezuela, elev. 2800 m, 24 Feb. 1971. "Tree 3-5 m tall; leaves coriaceous, deep green above, dull paler green below with elevated magenta nerves; inflorescence branches pale magenta with pale green; calyx and hypanthium dull pale green with magenta; petals white."

Both M. arbutifolia and M. albertii have plinerved leaf blades with length/width ratio (2.2-)3-5 rather than 1.4-1.65; M. arbutifolia has emergent external calyx teeth. Miconia boxii Wurdack has sessile longer and relatively narrower leaf blades and smaller flowers.

MICONIA TINIFOLIA Naud.

This Venezuelan species is well characterized by the branchlets with more-or-less definite decurrent ridges below the leaf nodes, glabrous or glabrescent leaves, and clavate styles with scarcely expanded stigmas; especially definitive are the biporose anthers, the connective more-or-less prolonged to the filament insertion and in the larger stamens with a prominent blunt descending dorsal tooth 0.6-0.9 mm long. Certainly however, there are many vegetative and flower size differences in the local populations, two of the more distinctive being formally described below. Cogniaux had already described var. parvifolia; the presumed holotype (LE, specimen annotated by Cogniaux), collected by Karsten at Boconó, Trujillo, shows more prominent than usual calyx lobes, being well matched in this feature and pubescence by Steyermark 104799 (Boconó-Guaramacal, Trujillo) which however has proportionately broader leaf blades. Another Karsten collection (W, Boconó, Trujillo) seen by me has wider leaf blades than in the original description of var. parvifolia and caducously furfuraceous (the roughened hairs 0.05-0.1 mm long) branchlets and primary leaf veins beneath; the collection is best matched by Ruiz Terán & López Figueiras 24 (Páramo de Quirora, Mérida). This latter Karsten collection has the small flowers (petals 1-1.3 mm long) with short (0.1-0.3 mm) prolongation of the large anther connectives seen in other Andean (Mérida, Ruiz Terán & López Figueiras 35 and 725; Táchira, Steyermark, Dunsterville, & Dunsterville 100969) and Cordillera Costal (D. Federal, Steyermark 91664; Aragua, Allart 434, Fendler 412; Anzoátegui, Steyermark 61691) collections; this material has nearly or quite glabrous branchlets and basally nerved or inconspicuously (to 0.5 cm) plinerved leaves without axillary vein pocols. Two other Andean variants cannot be further categorized until more extensive collections are available. One of these (Táchira, Steyermark, Dunsterville, & Dunsterville 98580 and 100978) has obtusish leaf apices and the branchlets (as in Steyermark 104799) moderately setulose with apically barbellate hairs 0.3-0.5(-1) mm long, but remote and minute calyx lobes; the other (Mérida, Ruiz Terán & López Figueiras

746, 773, 1759) also has obtusish leaf apices, but the branchlets moderately puberulous with roughened hairs only 0.1-0.15 mm long. No Colombian material of *M. tinifolia* has been seen; one fruiting collection (Pennell 7530, from Cauca) distributed as this species is not that, but rather perhaps near *M. turgida* Gleason.

MICONIA TINIFOLIA Naud. var. CAUDATA Wurdack, var. nov.

A var. *tinifolia* foliis proportionaliter angustioribus longe (ca. 1 cm) acuminatis triplinervatis venis primariis lateralibus basaliter ad costam membrana coalitis floribus minoribus differt.

Type Collection: J. A. Steyermark & M. Rabe 97331 (holotype US 2481531; isotype VEN), collected in cloudforest between Boconó and Guaramacal, Edo. Trujillo, Venezuela, elev. 2100-2300 m, 4 Sept. 1966. "Tree 10 m; leaves firm-membranaceous, rich green above, pale green below. Rachis, inflorescence branches, and hypanthium pale olive green; petals and filaments white."

Paratype (topotypical): Steyermark & Rabe 97338.

The typical variety has nearly or quite basally nerved and barely blunt-acuminate leaf blades (the length/width ratio 1.6-2.6, rather than 3.2-3.5) and considerably larger flowers and fruit (petals 2 X 2 mm, rather than 1.3 X 1.3 mm), as well as stamen connectives prolonged 0.6-0.8 mm (rather than 0.3 mm) to the filament insertion; to the typical variety, I have ascribed the following recent collections: Ruiz Terán & López Palacios 1580 (La Mucuy, Mérida), Ruiz Terán 1654 (Laguna de la Coromoto, Mérida), and Ruiz Terán & López Figueiras 975 (Páramo Jabón, Lara). In the small flowers and glabrous stems and foliage, var. *caudata* resembles much of the material discussed above under var. *parvifolia* Cogn. The specimens of var. *caudata* had earlier been determined by me as *M. theaezans* (Bonpl.) Cogn. subsp. *theaezans* var. *subtriplinervia* Cogn.; that species has 4-pored anthers with quite small connective appendages.

MICONIA TINIFOLIA Naud. var. RORAIMENSIS Wurdack, var. nov.

A var. *tinifolia* foliis distincte (0.5-0.8 cm) triplinervatis nervis primariis ad basin costa coalitis floribus paullulo minoribus antherarum connectivis non vel paullulo (ad 0.3 mm) prolongatis differt.

Type Collection: J. A. Steyermark 58877 (holotype US 1933593; isotypes F, NY), collected on the summit of Mt. Roraima, Edo. Bolívar, Venezuela, elev. 2700-2740 m, 28 Sept. 1944.

Paratypes (all Edo. Bolívar, Venezuela): Roraima, McConnell & Quelch 191, Tate 441 and 511; Ptari-tepui, Steyermark 59929.

Var. *roraimensis* has flowers intermediate in size between var. *tinifolia* and var. *caudata*, as well as leaf blades firmer and relatively wider (length/width ratio 2.3-2.5) than in the latter.

MICONIA TOVARENSIS Cogn.

Moritz 1741 (BM, P, W) is both topotypical and an exact match for the type collection (Fendler 419, NY, OXF); a recent collection (fruiting) of the species is Badillo 4025 (Choroni cumbre, Aragua). Certainly there has been confusion with M. cremophylla Naud. which, as to the type (Matthews 1297) has somewhat smaller foliage, narrower bracteoles (ca. 1.1 X 0.15-0.2 mm), large anther connectives dorsally at the base inconspicuously (0.1-0.15 mm) toothed, and ovary only 1/2-2/3 inferior. Triana (Trans. Linn. Soc. Bot. 28: 128. 1871) cited Fendler "1009" as questionably M. cremophylla and also Triana s. n. from Colombia (the Paris sheet unnumbered; perhaps Triana 4060 of the BM Catalogue); probably "1009" is a misprint, since one specimen (OXF) of Fendler 419 was annotated by Triana as M. cremophylla. The Colombian collection of Triana, as well as two Magdalena (Colombia) specimens, H. H. Smith 1845 and Romero Castañeda 949 (with flowers more distinctly pedicelled), show large anther connectives as in the Colonia Tovar collections of M. tovarensis, but perhaps are infraspecifically distinct. Miconia turgida Gleason, of Colombia, seems to differ from M. tovarensis only in the distinct raised interpetiolar ridges on the branchlets and more elevated ovary apices, having other vegetative and floral features the same; the stamen illustration published (Bull. Torrey Club 52: 453. 1925) is certainly not of M. turgida, but probably M. pennellii Gleason (described in the same article). To M. turgida, I have referred several recent Boyacá (Uribe 5726) and Cundinamarca (Uribe 3689, anthers semiabortive; Grant 10343; Uribe 5964, 6174) and Huila (Cuatrecasas 8481, at first determined as M. resima Naud.) collections. Two other species in this complex perhaps also should be considered: M. wurdackii Uribe is closely related to M. turgida, differing in the distinctly (outer pair of primary veins 2.5-4 mm from the margins) 5-nerved leaf blades with elevated-reticulate venules and densely pulverulent petals, but stamen and ovary features as in M. tovarensis; M. cundinamarcensis Wurdack has foliar venulation, stamen, and ovary features as in M. wurdackii (as well as pulverulent petals), but considerably smaller and relatively broader leaf blades which are more rounded at the ends. Of course, this tracing of affinities could be pursued much further from here, through the small-leaved group of M. ligustrina (Sm.) Triana and its relatives.

MICONIA ELAEOIDES Naud.

As earlier mentioned (Brittonia 9: 106. 1957), M. pallida Gleason (Bull. Torrey Club 57: 72. 1930) is synonymous with M. elaeoides. The only Venezuelan collection of M. elaeoides (Ruiz Terán & López Figueiras 1392, Páramo Portochuelo, Mérida) has vegetative pubescence scantier and more promptly caducous than in most Colombian material, as well as leaf blades slightly plinerved, but agrees in floral details; the anthers are biporo-se, but incompletely 4-locular. The puberulous variants of M. tinifolia (vide supra) are all different from the Portochuelo

population (which does not have a large dorso-basal connective tooth).

MICONIA THEAEZANS (Bonpl.) Cogn.

Miconia multinervulosa Cogn., DC. Mon. Phan. 7: 926. 1891.

For Venezuela, M. theaezans has been delimited as with small flowers (petals 0.9-1.2[-1.4] mm long), the calyx barely (0.1-0.2 mm) lobed, and the 4-pored anthers inconspicuously appendaged. Cogniaux ascribed to Venezuela three varieties (var. theaezans [var. genuina], var. longifolia Cogn., var. subtriplinervia Cogn.) of subsp. theaezans [subsp. viridis] and three varieties (var. lanceolata Cogn., var. parvifolia Cogn., var. integrifolia Cogn.) of subsp. flavescens Cogn. Except for formalin-treated collections, the two "subspecies" are distinguishable from dried specimens. Generally var. subtriplinervia (Merida: Gines 1790, Gehriger 345, Mocquerys 1224, Bernardi 297, Ruiz Terán & López Figueiras 100; Trujillo, Curran 1151) can be distinguished by the foliar venation. Most of the Guayana Highland (Edo. Bolívar) collections of true M. theaezans (vide infra sub M. rupestris Ule) perhaps also belong here, but the leaf blades are generally more oblong than in Andean collections and some material shows the yellowish dried foliage of subsp. flavescens (which also has a var. subtriplinervia Cogn. from Brazil). The following collections of M. theaezans from Guayana have been seen: Chimantá Massif, Wurdack 34200, Steyermark & Wurdack 662 and 728; Ilú-tepui, Maguire 33411; Roraima, Pinkus 137, Steyermark 58723 and 58977. Among the other varieties of subsp. theaezans, the differences between var. theaezans and var. longifolia Cogn. in Venezuela are tenuous and I am inclined to place all such material (with fairly large, basally nerved, and greenish [when dried] leaf blades) in var. longifolia (D. Federal, Lara, Mérida, Barinas, Táchira, Trujillo). Several intermediates (with narrow basally or subbasally nerved leaf blades) between var. subtriplinervia and var. longifolia have been collected (Trujillo, Aristeguieta & Medina 3421; Merida, Bernardi 95, Ruiz Terán 3124, Ruiz Terán & López Figueiras 1513).

Among the varieties of subsp. flavescens, var. parvifolia Cogn. (Trujillo, Funck & Schlim 746, BM, P) has glabrous branches, foliage (except for the minute glands beneath), and inflorescences, basally nerved and essentially entire firm leaf blades with rather lax venulation (areoles ca. 0.8-1 mm wide), and rather prominent calyx lobes (ca. 0.5 mm long). Despite the larger (than described) leaf blades, several recent Táchira (Steyermark, Dunsterville, & Dunsterville 98446 and 100755) and Merida (Ruiz Terán & López Figueiras 1699) collections seem referable to var. parvifolia. André 1533 (NY), from Cundinamarca, Colombia, was referred by Cogniaux (after the original description) to var. parvifolia, but differs in the serrulate and shortly triplinerved (pocules slightly developed) leaf blades with quite fine (areoles 0.3-0.5 mm wide) venulation. The only Cogniaux-annotated collection (Karsten s. n., W)

of var. integrifolia seen by me actually belongs to var. lanceolata (vide infra). Most, if not all, Venezuelan collections of var. lanceolata Cogn. from Aragua and D. Federal are dioecious; specimens examined include Allart 158 (male), Allart 97 (female), Fendler 413 (male), Moritz 952 (both male and female sprigs) and Karsten s. n. (male, syntype of var. integrifolia). Perhaps var. lanceolata should be segregated specifically; some Peruvian and Bolivian material placed in M. theaezans is also dioecious, but vegetatively different from the Venezuelan specimens. The type collection of M. multinervulosa Cogn. (Fendler 415, NY) closely resembles var. lanceolata, but has hermaphroditic flowers; I do not believe that it is specifically different from M. theaezans. Another Venezuelan population in the M. theaezans complex, but with barbellate-setulose (hairs ca. 0.3 mm long on the internodes, longer at the nodes) branchlets, very large leaves, and unisexual flowers (only female known), has been collected in Trujillo (Steyermark 104655 and 104698); it seems to be related to (or perhaps the same as) M. brachygyna Gleason, but male material is needed. Ruiz Terán 3377 (El Rincón, Mérida, in bud) has foliage resembling this large-leaved taxon, but slightly different pubescence; Venezuelan material at anthesis is needed for comparison with two hermaphroditic Colombian species, M. resima Naud. and M. orescia Uribe.

Two West Indian species, M. vulcanica Naud. and M. globuliflora (Rich.) Cham. ex Triana, with the general facies of M. theaezans, were also credited to Venezuela by Cogniaux; both species are dioecious and with rather well developed calyx lobes, but I have not seen the cited collections (M. globuliflora, "prope Maracaybo," Plée; M. vulcanica, Valencia-Campanero, Fendler 2266). I am inclined to believe that the Plée material is a label mixup with his West Indian collections, M. globuliflora being a moderate-elevation species unlikely from the Zulia lowlands. The Costa Rican material (Pittier 2117) cited as M. globuliflora by Cogniaux has hermaphroditic flowers and seems better placed in M. theaezans (subsp. theaezans var. triplinervia Cogn.). As for M. vulcanica, no modern collections from Venezuela have been seen, but the possibility of the species occurring in South America perhaps exists (although the usual direct West Indian-Venezuelan linkage is with Jamaica and not the Lesser Antilles); the nodal setae (similar to those in the less pubescent forms of M. mesmeana subsp. longipetiolata Wurdack) in combination with the floral characters would be diagnostic among the Venezuelan species of Miconia.

MICONIA RUPESTRIS Ule

Despite earlier remarks about the possible synonymy (Mem. N. Y. Bot. Gard. 10[5]: 174. 1964), M. rupestris is being maintained as a distinct species, differing from the Guayana Highland populations of M. theaezans (vide supra) in the squamulose (rather than stellulate or absent) juvenile vegetative pubescence, infra-nodal branchlet setulae (usually), more lax leaf

venulation, and larger flowers (petals 2 mm long, rather than 0.9-1.2 mm) with more conspicuous calyx lobes (0.5 mm long, rather than 0.05-0.2 mm). Currently, M. rupestris is known from Roraima (only the type) and Auyan-tepui (Cardona 2671, an excellent match for Ule 8690; Steysmark 93971 and 94025; Vareschi & Foldvik 4883 and 4912). While M. tinifolia Naud. closely resembles M. rupestris, it may be distinguished by the shorter calyx lobes and bipored anthers with a long dorsal connective tooth in the larger stamens, as well as (in the Guayana Highland) the markedly 3-plinerved leaf blades with inner vein axil pocules.

MICONIA BILOPEZII Wurdack, sp. nov.

Sect. Cremanium. M. resimoidi Cogn. affinis, foliis minoribus proportionaliter angustioribus distincte calloso-serrulatis antherarum thecis longioribus stigmatibus plus expansis differt.

Ramuli sulcato-rotundato-quadrati, primum sicut inflorescentiae axis et rami petiolique dense squamato-puberuli demum glabrati. Folia ascendente; petioli 0.4-0.7 cm longi; lamina 3-5(-6) X 1-2(-2.4) cm lanceato-elliptica vel elliptica apice hebeti-acuto et mucronulato basi acuta, subrigida et calloso-serrulata, primum sparse squamato-puberula mox glabrata, trinervata nervis secundariis 1-1.5 mm inter se distantibus nervulis subtus laxiuscule reticulatis (areolis plerumque 0.7-1 mm latis). Panícula 6-10 cm longa multiflora, ramis ascendentibus; flores 5-meri hermaphroditi, pedicellis 1-2 mm longis, bracteolis ca. 1.5 mm longis obovato-ellipticis mox caducis ca. 0.7 mm infra hypanthii basim insertis. Hypanthium (ad torum) 2 mm longum glabrum; calycis tubus 0.3-0.5 mm longus, lobis interioribus ca. 0.5 X 0.5 mm, dentibus exterioribus triangularibus non eminentibus. Petala 1.9-2.1 X 1.7-2 mm suborbicularia minutissime pruinoso-granulosa. Stamina essentialiter isomorphica glabra; filamenta 2.2-2.8 mm longa; antherarum thecae 1.2-1.4 X 0.5 X 0.6 mm late 4-porosae, connectivo non prolongato ventraliter 0.1-0.15 mm bilobulato dorsaliter dente 0.1-0.2 mm longo erecto-ascendente armato. Stigma expansum 0.6-0.8 mm diam.; stylus glaber 3.7 X 0.5-0.7 mm; ovarium 3-loculare 1/2 inferum apice conico glabro.

Type Collection: M. López Figueiras & S. López Palacios 8688 (holotype US 2613343; isotype MER), collected at La Aguada on the route to Pico Bolívar, Sierra Nevada de Mérida, Distrito Libertador, Edo. Mérida, Venezuela, elev. 3300 m, 18 Feb. 1971. "Arbusto de 1 m de alto. Flores con cáliz rosado verdoso; corola blanquecino-cremosa."

Paratypes (both Edo. Mérida, Venezuela): Funck & Schlim 1071 (BM, P), Sierra Nevada de Mérida, elev. 2700 m; H. Humbert 26724 (P), Sierra del Norte, elev. 2900 m.

Miconia resimoides has entire to obsoletely crenulate leaf blades 6-12.5 X 2.5-6 cm with length/width ratio mostly 2-2.9 (rather than mostly 3.2-3.5), anthers 0.8-0.9 mm long, and stigma 0.3-0.35 mm diam. The Funck & Schlim collection was cited by Cogniaux as M. tinifolia Naud.

MICONIA BERNARDII Wurdack, sp. nov.

Sect. *Cremanium*. *M. gleasonianae* Wurdack affinis, foliis bracteolis floribusque maioribus differt.

Ramuli quadrangulati sicut petioli foliorum venae primariae subtus inflorescentiae ramulique modice vel densiuscule pilis barbellatis 0.2-0.5 mm longis patentibus demum caducis induti. Petioli 0.8-1.5 cm longi; lamina (5-)7-11 X 2-4 cm elliptico-oblonga apice hebeti-acuto vel hebeti-obtuso basi obtusa vel rotundata, coriacea et integra, primum pilis stellulato-pinoideis ca. 0.05 mm latis sparsiuscule induta mox glabrata, 5-nervata (pari exteriore tenui incluso) nervis secundariis 2-3 mm inter se distantibus nervulis subtus planis subdense reticulatis (areolis ca. 0.5 mm latis). Panícula 5-9 cm longa multiflora; flores 5-meri subsessiles (pedicellis 0.2-0.3 mm longis crassis), bracteolis prominentibus 2.7-3.2 X 2.2-2.8 mm ovato-ellipticis usque ad anthesin persistentibus. Hypanthium (ad torum) 2.3-2.5 mm longum basin versus sparse stellulato-puberulum; calycis tubus 0.1-0.2 mm longus, lobis interioribus ca. 0.5 mm altis semicircularibus, dentibus exterioribus minutis inframarginalibus. Petala 2 X 1.8-2 mm glabra suborbicularia apice retuso. Stamina essentialiter isomorphica glabra; filamenta 2.8 mm longa; antherarum thecae 1 X 0.5 X 0.5 mm late 4-porosae, connectivo paulo (0.4 mm) prolongato ventraliter paullulo bilobulato dorsaliter paulo dentato. Stigma paullulo expansum 0.6-0.7 mm diam.; stylus glaber 3 X 0.5-0.6 mm; ovarium 3-loculare et 1/2 inferum, apice conico 0.7-0.8 mm alto glabro.

Type Collection: *A. L. Bernardi* 3209 (holotype NY; isotypes G-DEL, NY, VEN), collected in subparamo zone near La Trampa, "via Lagunillas-La Panamericana," Edo. Mérida, Venezuela, elev. 2050 m, 17 May 1956. "Arbolito erecto de copa redonda, follaje verde oscuro brillante; flores pequeñas, blancas. Aparentemente escasa. Corteza entera, de color gris. n. v.: Mortiño."

Paratype: *W. Gehrig* 474 (US), from Tabay, Mérida, elev. 2500-3200 m.

Miconia gleasoniana has leaf blades 1.5-4 X 1-2 cm, linear floral bracteoles, hypanthia only 1.3-1.4 mm long, and petals only 1.3-1.5 mm long; *M. rudis* Cogn. & Gleason ex Gleason has terete branchlets, longer cauline pubescence (to 1 mm long), more obvious leaf margin serrulation (teeth 0.6-0.8 mm long), and somewhat longer (0.8-1 mm) calyx lobes. Among the Venezuelan species of Sect. *Cremanium*, *M. elaeoides* Naud. differs in the more obviously toothed leaf margins, linear bracteoles, shorter calyx lobes, and more expanded stigmas, while *M. tabayensis* Wurdack has much larger and relatively broader leaf blades and smaller unisexual flowers.

MICONIA RUIZTERANII Wurdack, sp. nov.

Sect. *Cremanium*. In systemate Cogniauxii *M. resimoidi* Cogn. et *M. microcarpae* Naud. affinis, ramorum trichomatibus longioribus foliis supra bullatis differt.

Ramuli teretes sicut petioli foliorum venae primariae

subtus inflorescentiaque pilis robustiusculis 0.4-1 mm longis apice barbellatis modice armati. Petioli 0.4-0.8 cm longi; lamina 3-6.5 X 1.5-3.5 cm anguste ovata apice gradatim breviterque acuminato basi obtusa vel truncata, rigidiuscula et obscure serrulata, supra bullato-rugosa et glabra, subtus in venis secundariis pilis sparse barbellatis tenuibus 0.1-0.3(-1) mm longis sparse induta in venulis superficiei glabra, trinervata nervis secundariis ca. 2 mm inter se distantibus venulis subtus laxiuscule reticulatis (areolis ca. 0.7 mm latis). Panicula ca. 10 cm longa multiflora, ramulis oppositis; flores 5-meri, pedicellis ca. 1 mm longis, bracteolis 1-1.5 X 0.5-0.7 mm ante anthesim caducis. Hypanthium (ad torum) 1.5 mm longum, glabrum; calycis tubus 0.5 mm longus, lobis interioribus 0.5 mm longis orbicularibus, dentibus exterioribus crassis non vel paullulo (0.05 mm) eminentibus. Petala glabra, 1.2 X 0.9 mm, obovata apice paulo emarginato. Stamina paullulo dimorphica glabra; filamenta 1.8-1.9 mm longa; antherarum thecae 0.6-0.7 X 0.4 X 0.4 mm obovatae 4-porosae, connectivo 0.25-0.3 mm prolongato dorsaliter infra filamentum insertionem obscure (0.04-0.07 mm) prolongato. Stigma truncatum non expansum; stylus glaber 2.8 X 0.2-0.3 mm; ovarium 3-loculare et 1/2 inferum, apice conico 0.5 mm alto glabro.

Type Collection: L. Ruiz Teran 3204 (holotype US 2592536A; isotype MER), collected at "Las Escaleras, entre La Negrita y el puente sobre la quebrada de La Escasez, Municipio Mucuchíes, Distrito Rangel," Edo. Mérida, Venezuela, elev. ca. 2800 m, 21 June 1966. "Arbusto o arbolito 3-4 m, frecuente. Hipanto verdósulo con zonas rojas. Pétalos blancos; filamentos blancos; anteras blancas; estilo blanco. N. V.: amarillito."

Both M. resimoides and M. miocarpa have cauline pubescence less than 0.5 mm long and larger plane leaf blades. Other relatives include M. gleasoniana Wurdack (plane elliptic-oblong leaf blades) and M. acanthocoryne Wurdack (larger and plane leaf blades, essentially sessile flowers); M. tabayensis Wurdack has much finer cauline hairs and much larger plane leaf blades.

MICONIA MESMEANA Gleason subsp. LONGIPETIOLATA Wurdack, subsp. nov.

A. ssp. mesmeana petiolis longioribus laminis tenuioribus ad basim acutis subtus plerumque esetulosus differt.

Type Collection: J. A. Steyermark 105003 (holotype US 2591515A; isotype VEN), collected in virgin cloudforest between La Peña and Agua de Obispo, 22-28 km from Carache, Edo. Trujillo, Venezuela, elev. 2400-2500 m, 1 Mar. 1971. "Tree 3 m; leaves dark green above, pale green below, firmly membranaceous; rachis and inflorescence branches pale green; pedicels greenish white; calyx, petals, filaments, and anthers white."

Paratypes (all Venezuela): Lara: between Encrucijada and the road from Parque Nacional Yacambú to El Blanquito 10-15 km SSE of Sanare, Distrito Jiménez, elev. 1750-1800 m, J. A. Steyermark, F. Delascio, G. C. K. & E. Dunsterville 103519 (US, VEN). Trujillo: La Quebrada Cortijo above Humocaro Blanco,

elev. 2600-2800 m, J. A. Steyermark 55325 (NY); La Peña-Agua de Obispo, 28-34 km from Carache, elev. 2100-2400 m, J. A. Steyermark 104959 (US, VEN). Mérida: Tabay, elev. 2500-3200 m, W. Gehriger 479 (NY, US, VEN); Páramo La Sal, A. Jahn 601 (US, VEN; petioles short, flowers small); Páramo Quirorá, elev. 3000 m, A. Jahn 878 (branchlet setulae obscure); Sierra del Norte, elev. 2500 m, H. Humbert 26704 (P); Páramo Canagua, elev. 2187 m, L. Ruiz Terán 2990 (US); Páramo San José, elev. 2600 m, L. Ruiz Terán & M. López Figueiras 694 (US) and 713 (US); without definite locality, A. L. Bernardi 6206 (NY).

The typical subspecies, known in Venezuela only from Edo. Táchira, has petioles 0.2-0.4(-0.7) cm long (rather than 0.7-2 cm), the subcoriaceous leaf blades obtuse to rounded at the base and setulose along the primary veins basally beneath, and the main axis and branches of the inflorescences with simple setulae. In subsp. longipetiolata, the leaf blades are acute at the base and usually without setulae beneath (sparsely setulose in Ruiz Terán & López Figueiras 694) and the inflorescence lacks simple hairs; the vegetative branches are short-setulose at the nodes, the internodes being without simple hairs or varyingly setulose. Miconia mesmeana rather resembles M. vulcanica Naud. (vide supra, sub M. theaezans), which is dioecious. Miconia brachygyna Gleason is dioecious and with generally larger leaves and smaller flowers. The well developed calyx lobes in the flowers of M. mesmeana resemble those of M. rupestris Ule and M. resimoides Cogn.; both these species differ in the squamulose (rather than stellulate or pinoid-stellulate) young branchlet indument and esetulose branch nodes.

MICONIA MESMEANA Gleason subsp. JABONENSIS Wurdack, subsp. nov.

A subspecies typica foliis minoribus ramorum pilis simplicibus brevioribus differt.

Type Collection: L. Ruiz Terán & M. López Figueiras 920 (holotype US 2613342; isotype MER), collected at Los Pocitos de El Alto, Páramo del Jabón 15 km east of Carache, Edo. Trujillo, Venezuela, elev. 3100 m, 2 Oct. 1970. "Arbusto erecto profusa e irregularmente ramificado 1.5 m. Hipanto y pétalos blanquecino-verdosos; filamentos y anteras blancos, el conectivo cremosulo; estilo rosado en la mitad proximal, verde claro en la mitad distal."

Paratypes (both Venezuela): J. Cuatrecasas, L. Ruiz Terán, & M. López Figueiras 28213, from Páramo del Jabón, Edo. Lara, elev. 3100-3400 m; L. Ruiz Terán & M. López Figueiras 1707, from Páramo de Quirorá, Mun. Estanques, Edo. Mérida, elev. 3000-3200 m.

The leaf blades in subsp. jabonensis are only 1-2.4 X 0.7-1.2 cm (rather than 3-7 X 1-2 cm) and the cauline simple hairs mostly only 0.5-0.7 mm long (rather than 1-1.5 mm). The Mérida paratype has sparse simple setulae along the primary leaf veins beneath, the other collections lacking such hairs (but stellulate-pinoid-puberulent as the Mérida material). The small leaf

blades of subsp. jabonensis give specimens quite a different aspect from that of the other subspecies, but the floral details are consonant in all and not like those in the small-foliaged species complex around M. summa Cuatr. and M. buxifolia Naud. (which have anthers qualitatively like those in M. tinifolia Naud., the large anther connectives with a prominent dorso-basal tooth). Miconia neblinensis Wurdack resembles M. mesmeana subsp. jabonensis, differing in the longer cauline pubescence, relatively wider and less distinctly serrulate leaf blades with obtuse to rounded bases, more compact inflorescences, and (at least predominantly) functionally unisexual flowers; M. neblinensis is perhaps to be expected on the Venezuelan part of Cerro Neblina, but has not yet been collected there.

ICARIA Macbride

The genus is undoubtedly a synonym of Miconia, the species well accommodated in Sect. Chaenopleura. The filaments in I. fictilis Macbride are much broadened basally (as in most of the 4-merous species of this section of Miconia and also many species in Sect. Cremanium) and apically sparsely puberulous with glands ca. 0.05 mm long (as also the connective base and style); the "winglike erect appendages" described for the anthers are actually the edges of the rimose thecae. The species is not being formally transferred to Miconia, since the specific distinctness from other rarely collected Peruvian species is questionable (cf. M. grisea Cogn., M. nitida [Don] Naud.) Madison 10350 (from Puncu ca. 30 km NE of Tambo, Prov. La Mar, Depto. Ayacucho, Peru), fruiting only, is Icaria fictilis vel aff.

HENRIETTEA RAMIFLORA (Sw.) DC.

Some of the collections (Jamaica, Wurdack, Solt & Proctor 2627; Bolívar, Venezuela, Steyermark & Nilsson 488, Steyermark, Dunsterville, & Dunsterville 104378; Amazonas, Venezuela, Maguire, Cowan, & Wurdack 29790) show sparsely puberulous styles. None of these however is the same as H. succosa (Aubl.) DC. var. guianensis Gleason (surely specifically distinct from H. succosa), which has sparse setula-tipped hairs (with minute stellulate bases) on the lower leaf surfaces and external calyx teeth projecting 1.5-2 mm but small flowers as in H. ramiflora; Sandwith 1056 (NY) is well matched by Cowan & Soderstrom 1984 and Maguire & Fanshawe 23126 (distributed as H. ramiflora). In foliage, Maguire, Cowan, & Wurdack 29790 matches well Hostmann 373 (type collection of both H. surinamensis Miquel and H. trinervia Naud.); unfortunately no stylar details have been observable in Suriname material. At present, it seems best to treat H. ramiflora as a variable wide-ranging species, especially in view of the field-observed stylar pubescence in Jamaican plants.

A useful character in sorting the species of Henriettea is the internal hypanthial pubescence. In the Venezuelan species,

one group (also including H. succosa) has the hypanthium within (below the torus) glabrous or very sparsely strigulose apically on only the faint ridges; the other species-cluster shows hypanthia within completely covered with minute downward-pointing hairs. Within each of these groups however, species definition is currently unruly.

HENRIETTELLA BRACTEOSA Wurdack, sp. nov.

In pilorum forma H. triflorae (Vahl) Triana affinis, foliis subglabris bracteis maioribus floribus 5-meris differt.

Arbor parva 3-5 m alta; ramuli crassi quadrati primum sicut foliorum venae primariae basim versus subtus sparse laxo-strigosi pilis plerumque 1-1.5 X 0.1-0.15 mm laevibus (basi expansa minutissime muriculata) paulo compressis demum caducis. Petioli 2-5.5 cm longi; lamina 11-24 X 6-12 cm obovato-elliptica apice breviter (per 1-2 cm) subabrupteque acuminato basi acuta vel anguste obtusa, membranacea et integra (vel primum obscure calloso-serrulata), distanter appresso-ciliolata, ubique primum glandulis demum caducis 0.05 mm diam. sparse obsita in venulis superficiei alioqui glabra, breviter (1-2 cm) 5-plinervata nervis secundariis plerumque 2.5-3 mm inter se distantibus nervulis non vel paullulo evolutis. Flores 5-meri sessiles ad nodos multifasciculati bractearum paribus 3(-4) persistentibus arcte investiti; bractee 2.5-3.5 mm longae lataeque suborbiculares (apice paulo emarginato) glandulis minutis modice marginatae extus basim versus centraliter sparse strigulosae alioqui glabrae. Hypanthium (ad torum) 3 mm longum extus dense sericeo-strigosum (pilis laevibus compressis ca. 2 mm longis) intus glabrum; calyx 0.6 mm longus paulo (0.1 mm) 5-undulatus intus glaber apice dense ciliolato (0.8 mm); torus intus glaber. Petala 5 X 2.2 mm oblongo-lanceata extus carinata apice extus mucronulato et obscure puberulo alioqui glabra intus ca. 2 mm supra basim obscure porcata. Stamina isomorphica glabra; filamenta ca. 2.5 mm longa; antherarum thecae 2.6 X 0.7 X 0.7 mm oblongae poro minuto 0.2 mm diam. dorsaliter inclinato, connectivo ca. 0.2 mm prolongato non appendiculato. Stigma paullulo truncato-expansum 0.6 mm diam.; stylus glaber longe exsertum; ovarium 5-loculare ca. 1/2-2/3 inferum apice glabro conico ca. 1.2 mm alto (collo incluso) styli collo ca. 0.7 mm longo.

Type Collection: J. A. Steyermark & M. Rabe 96172 (holotype US 2469792; isotype VEN), collected on Cerro de Río Arriba, "laderas de bosque siempre verde oeste de Cerro de Humo, a lo largo de Río Santa Isabel, arriba de Santa Isabel," Peninsula de Paria, Edo. Sucre, Venezuela, elev. 600-700 m, 9 Aug. 1966. "Leaves dark green above, pale green below; calyx pale green; petals and filaments white."

Paratype: Steyermark & Agostini 91353, from Cerro Patao, Edo. Sucre, Venezuela, elev. 870 m.

Henriettella triflora (cf. Proctor 17638, from St. Lucia) has the leaf blades loosely fine-strigose on the surface above and the veins and veinlets beneath, inconspicuous floral bracts

1-1.5 mm long, 4-merous flowers, sparser hypanthial pubescence, petals ca. 10 mm long, and a completely inferior ovary; the suggested relationship is from the qualitative similarity of the vegetative pubescence. In Cogniaux' monographic arrangement, H. bracteosa would key to H. ovata Cogn. and H. verrucosa Triana or to H. parviflora (Griseb.) Triana and H. boliviensis Cogn.; all these species lack an ovarial collar around the style base and individually differ from H. bracteosa in many other particulars. Certainly related to H. bracteosa, but probably at least subspecifically distinct, is a Tobago population (D. W. Snow 5, in young fruit). One other collection (Steyermark 94896, Cerro de Humo, Sucre, elev. 1273 m) shows the vegetative features of H. bracteosa (the young leaves more obviously callose-serrulate), as well as similar bracts and hypanthium; however the petals are sparsely to moderately strigulose outside and 3.5-4 mm wide and the stamens in some (but not all) flowers have strigulose filaments. Additional material of the Cerro de Humo population is needed. The vegetative pubescence and floral bracts (but not other characters) of H. bracteosa are somewhat reminiscent of those in Clidemia conglomerata DC. Still another species of Henriettella (or Loreya?) has been collected in fruit on Cerro de Humo (Steyermark & Rabe 96352); it is perhaps related to H. sessilifolia (L.) Triana but with petiolate and acute-based leaves, and cannot be further evaluated without flowers at anthesis. One other undescribed Venezuelan Henriettella, related to H. verrucosa Triana, has been collected in fruit on Cerro Naiguata, D. Federal (Steyermark 92005).

For the Flora de Venezuela and to avoid name changes, Henriettella (non-rostrate anthers, calyx glabrous within in Venezuelan species) is being treated as distinct from Henriettea (rostrate anthers, calyx strigulose within); certainly however, a generic transition zone exists between Henriettella ovata Cogn. and Henriettea patrisiana DC., with Henriettella parviflora (Griseb.) Triana perhaps not distinct from the latter. Henriettella seemannii Naud. has been indicated (Fieldiana Bot. 29: 566. 1963) as the generotype (from among the three species originally described by Naudin). Incidentally, I do not agree with the synonymization of Henriettea strigosa Gleason under H. seemannii (Fieldiana Bot. 29: 565-566. 1963), the former actually being in the H. patrisiana alliance; an excellent modern match for Seemann 388 (BM) is Skutch 4044 from Costa Rica.